



Secretariat of the Pacific Community

# *Fisheries Education and* **TRAINING**

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## NOTE FROM THE EDITOR

Welcome to the 15<sup>th</sup> issue of our SIG bulletin on Fisheries Education and Training!

Our feature article will take you to the Banks Islands, northern of Vanuatu, where staff of the Vanuatu Maritime College have recently run a series of workshops for coastal communities.

This bulletin also includes a comprehensive article on the training courses available at Seafdec Aquaculture Department, a progress report on USP Post Harvest Fisheries Development Project, summary reports on two HACCP consultancies recently undertaken in Papua New Guinea, information on training programmes available in Tonga, Kiribati and at the Australian Maritime College.

Some of the recent activities of the SPC Fisheries Training Section are also covered in this issue.

Happy reading!

**Michel Blanc**

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## FEATURES



### *New Skills for Fishers in the Banks Islands*

How do I do to keep my outboard motor running well? What's the best way to catch freshwater prawns? How do I look after my boat? What do I do if I catch so many fish that we can't eat them all now? How do I find my way back to a good fishing ground? Thirty-one people from the Banks Islands spent ten days at Sola on Vanualava Island in July, learning the answers to these and many other questions while they attended two courses run by instructors from the Vanuatu Maritime College. The College's Engineering Instructor, August Fred, concentrated on engine and boat maintenance and repair, safety at sea, ropework used by seafarers and construction of a fishing reel. Thirteen people from all islands in the Banks Group attended. Some were fishermen, others were taxi-boat operators. Nare Wolu, the Fishing Instructor, taught 16 fishers (12 men and 4 women) about fishing techniques, fish handling and preservation, fish poisoning, net-making and repair, and care of resources. All islands in the Banks except Mota were represented in this group. The courses were officially opened on 5 July by the vice-president of Torba Province, Edmond Hillary.

#### **Training**

#### **Engine maintenance**

Fishers and taxi-boat operators in the Banks all use outboard-powered boats, with engines of 25 HP (sometimes two on one boat) and over. Teaching was based on a Bislama version of SPC's *Outboard Motors for Pacific Island Mariners – Learner's Guide*. Trainees spent three days learning how to maintain and repair the engines, with classroom sessions in the mornings and early afternoons and the rest of the day focused on practical work. As part of their training, they overhauled engines belonging to the Province, Arep

Junior Secondary School, the Education Department, the Island Court and a private operator. All were badly in need of servicing and maintenance. Many of the trainees already knew about some maintenance procedures, but hadn't put their knowledge into practice because they didn't understand the reasons underlying the procedures. For example, the trainees discovered that washing their engines and tanks regularly, would make them last longer. They were also interested to learn practical aspects of outboard engine use,

such as avoiding major damage to their engine by keeping the shift lock unlocked when running, and avoiding damage to their boat by not overpowering it.

#### **Boat maintenance and repair**

Many of the boats in the Banks Islands are made from plywood and built by the Santo Boatbuilding Yard. Others are fibreglass. Some are used for fish-

ing. The taxi-boats carry passengers, food supplies and other cargo. After a short session in the classroom, trainees pulled four boats ashore, using coconut logs as rollers, and shored them up. They cleaned them thoroughly, using coconut husks as brushes, to remove all traces of algae, fish debris and soil from food. Once they were brushed, the timbers of the wooden boats were checked; all were found to be sound. In the classroom, the trainees had learnt how to prepare boats for re-painting, but they could not put this knowledge into practice as no paint was available. They also checked a 7m fibreglass boat built in Port Vila. This was in poor condition. It had been holed in several places, had a broken transom caused by the use of a too-powerful engine, and (after being moored in a swamp) was full of algae. The damage was so extensive that the trainees had neither the time nor the materials to repair it. After cleaning the boat thoroughly, they turned it upside down so that it could dry properly while awaiting transport to the Santo Boatbuilding Yard for repair.



*Our families will enjoy resting in these home-made hammocks.*

## Safety at sea

Torba Province is striving to ensure that all taxi-boats follow safety principles, but this is not always an easy task, as it can be hard to obtain even basic safety equipment. Many boats do not have flares, fire extinguishers or fire blankets or radios. Not all have life-jackets. And the boats are often over-loaded. Some of the boats make long trips (for example the journey from Vanualava to Merelava takes a full day), and some of these are made at night without lights. Safety at sea was therefore an essential part of the training. August discussed precautions that should be taken before going to sea, safety equipment and engine checks, using the SPC safety-at-sea materials as a basis for his teaching. (The Maritime College has translated these materials into Bislama and SPC has arranged their printing.) Some of the trainees had never used life-jackets. Using those owned by the Province, they learnt how to put them on and the proper way to jump into the sea wearing them. They also learnt how to make an emergency sail that can be hoisted if the engine fails. And they pondered the question: "Who pays the price when you get lost at sea and expensive air and sea searches are made?" – realising that it is better to be well prepared before you go. Nare also emphasised safety at sea, as well as basic First Aid, during the fishing trips that he made with his group.

## Knots, splices and whipping

Practical ropework was a useful part of both courses. Some trainees already knew about knots, splices and whipping and just needed to refresh their memories. For others, this was a new topic, and they were especially interested in the different ways of whipping rope.

## Fishing reel construction

The "Samoan" fishing reel is very popular among Vanuatu fishermen for both bottom fishing and trolling. Using templates provided by the Santo Boatbuilding Yard, August showed trainees how to make their own reels and fit them

to their fishing craft. Unfortunately, this was one of the few lessons where the training was "classroom-only" – no suitable wood was available at Sola at the time of the course. A copy of the template was left at Torba Province Headquarters and the same type of reel was used in practical fishing exercises.



*A lot of concentration was needed to learn how to whip rope.*

But the Maritime College's definition is much wider and includes "any kind of activity that involves catching food from the sea or in fresh water". Trainees were also surprised at the multitude of skills a really good fisher needs: management of resources, money and business; maintenance and repair of boats and engines; fishing gear and techniques; fish handling and preservation; and safety. This session had them really thinking about fishing.

## Fishing techniques

The two main techniques taught were bottom fishing and trolling. Trainees learnt what materials they need to put their own fishing gear together, and what different kinds of knots and splices they can use for different purposes. At the end of the course each one had a trolling rig with lures and a wire rig with tuna circle hooks. They also

learnt what other tools and gear they need to successfully bottom fish and troll. Bottom fishing and trolling were new to the four women taking course – traditionally Vanuatu women practise shore fishing, but do not go out fishing in boats. These four did go out, because Nare made three short night-fishing trips with his trainees, during which they practised both trolling and bottom fishing. Before going out fishing, Nare emphasised the importance of preparing the boat properly – checking that boat and engine are in good order, that safety and fishing gear are all there, that preparations are made for keeping fish properly, and that there is



*Part of the night's catch.*

enough food and water on board. Trainees learnt how to cut bait and bait their hooks correctly, how to use the reels and how to control a big fish without problems. Sola has no facilities for making large quantities of ice, but the trainees had learnt the importance of keeping fish in top condition. This they did by covering the fish with copra bags and keeping the bags constantly soaked in cool seawater. The fish returned to Sola in prime condition, well before rigor mortis set in, and were kept for the rest of the night in ice in a freezer whose power supply had been turned off. The first group were out from 6.30 to 11 pm. They caught 6 white poulet (*Pristipomoides flavipinnis*), 10 sea perch (*Lutjanus malabaricus*), 4 loches (groupers, *Epinephelus* sp.), 2 dog-tooth tuna (*Gymnosarda unicolor*) and 15 pink fish (humpback snappers, *Lutjanus gibbus*).

The next day, the trainees used these fish in the fish preservation session. The second group made a shorter trip, from 6 to 8.30 pm, and only caught 2 snappers (*Etelis* sp.). The third group were out from 5 to 9.30 pm and caught 10 pink fish, a karong (trevally, *Caranx melampygus*), a red mouth (*Lethrinus* sp.) and 7 snappers. In the classroom, trainees learnt how to use transits of two or three landmarks to find their way back to productive fishing grounds. This was a completely new idea for them. They also learnt how to use their bottom lines to discover the depths at which they are fishing, what kinds of fish are usually found at different depths, and the importance of tides and currents.

Other fishing techniques briefly covered during the course were fishing (with traps) for lobsters and freshwater prawns. Banks Islanders traditionally make very beautiful lobster and prawn traps, but they learnt some new ideas about how to use them and how to maintain the quality of the lobsters and prawns they catch.

## Fish handling and fish preservation

"Treat your fish like a baby" is Nare's watchword. Trainees discovered how poor handling can increase the risk of damage caused by bacteria and enzymes. They discussed fish quality, and the proper way to gut and gill the fish, clean them with the least possible damage to their skin and flesh, and fillet them. Then it was time for fish preservation. This was a really popular session. In the classroom, four techniques were discussed: bottling, smoking, salting and sun-drying. It was only possible to do practical work on the first two, mainly because the sun (needed for the others) refused to show its face. The trainees made bottled fish, flavoured with tomato sauce, soy sauce, oil, onion, salt and (for those who liked it) chili. The results were pronounced a "number one" substitute for imported tinned fish, and there were many demands for more. Before smoking fish, trainees made a smoke-dryer, using a 200-litre drum, reinforcing rod and copra mesh wire. They used

sawdust to make smoke during the lesson, but will normally use copra husks. The fish were sliced and flavoured with honey before smoking and should have been dried in the sun

for a week afterwards. This was not possible, but the rapid growth of mould on the fish after smoking was a valuable lesson in the need for drying. People who tasted the smoked fish said they liked it, but it is not a normal part of Vanuatu diet and it remains to be seen whether it will "catch on". Another topic covered was ciguatera fish poisoning. Nare's class were interested to discover what causes ciguatera and why people

should avoid damaging reefs – an activity that causes the organism responsible for fish poisoning to increase very fast. They also discussed the plants that can be used to treat fish poisoning, one of which, known as false tobacco, was not known to them, although they traditionally use many others.



*Practical work on a Yamaha outboard engine.*



*Four boats were pulled ashore on coconut-log rollers...and thoroughly cleaned inside and out.*

## Net making and repair

Under Nare's guidance, the trainees made a gillnet 10 m long and 1 m deep, complete with floats and sinkers, which was left at Sola for use in the future. They also had hands-on training in mending and patching nets and learnt to make their own netting needles from bamboo. Further practical activities included each trainee making a hammock to take home, and they made a volleyball net for Arep Junior Secondary School, whose classroom they were using. The original timetable for the course had programmed a practical session on gillnetting. However, it was not possible to do this, because in the interests of good resource management, Torba Province has very wisely placed a *tabu* on gillnetting, spear-fishing and shell collection in the area near Sola.



*It's good to find that the techniques learnt in the classroom produce real results.*

## Resource management and fisheries laws

The *tabu* placed by Torba Province was a good example of the need to manage resources wisely. Among other topics, Nare emphasised the need to conserve mangroves as a nursery for fish, and to avoid taking turtle eggs and female turtles so that turtles can once again become plentiful. He also explained Vanuatu fisheries law as it applies to such resources as lobsters, coconut crabs, conch shells, turtles, dugong and whales. A copy of this portion of the law in Bislama was given to each trainee.

## Resource materials

Each trainee was given notes in Bislama on all the topic covered by the course. Copies of SPC's safety-at-sea posters were put in the Torba Provincial Council Chambers at Sola, and the template for the fishing reel, fish quality posters and copies of the fisheries law and spare copies of the trainees' notes, were also left at Province Headquarters for reference.

## Closing ceremony

The course ended on 14 July with a closing ceremony, opened with a prayer by Father Luke Dini. Speeches were given by Provincial Secretary-General Father Baldwin Lonsdale and by August Fred on behalf of the Vanuatu Maritime College. Mr Abraham Eldads, Principal of Arep Junior

Secondary School, officially closed the courses. All participants were presented with certificates by their instructors. The final touch was the closing feast, for which Nare's trainees caught lots of good, fresh fish.

## Conclusion

The students' eagerness to learn is an indication of how valuable this kind of course can be. Torba Province is one of the most remote areas of Vanuatu, consisting of scattered islands of which only some have air strips. Flights are not frequent, and visits by inter-island cargo vessels are rare. The people therefore need

to be self reliant, and fishing is a valuable activity for them. The idea of running two courses simultaneously, with people from each island in attendance, is that trainees from one course can pass their skills to trainees from the other, as well as to other people. All trainees indicated that they would do this, and one particularly valuable trainee was Mrs Shirley Dick, who is in charge of Women's Affairs for Torba Province and whose job is training other women. August and Nare's next courses will be held in September, again in Torba Province, but this time at Loh for people from the Torres Islands – the northernmost islands in Vanuatu.

## Thanks

The Vanuatu Maritime College is grateful to the following for their assistance:

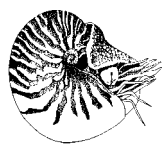
- The Torba Provincial Government Council, especially Secretary-General Baldwin Lonsdale and Assistant Secretary-General Christopher Mackenzie, for their help with arrangements;
- The Principal of Arep Junior Secondary School, Abraham Eldads, for making a classroom available;

- George Couscous, for providing food for the two instructors; and
- Marcel Rosflender of the Santo Boatbuilding Yard, for the fishing reel template.



*That bottled fish is really tasty – better than tinned fish.*

by August Fred & Nare Wolu  
Vanuatu Maritime College  
Luganville, Santo  
Vanuatu



# NEWS FROM THE FISHERIES DEPARTMENTS



## *Consultancy at PNG National Fisheries Authority, Port Moresby from 07 October to 21 October, 2000*

### **Narrative Report on Activities**

#### **Objectives:**

The aim of the consultancy was to assist with the running of a training course for PNG National Fisheries Authority's audit and certification officers in areas of Seafood Safety.

#### **Curriculum and timetable:**

##### **Week 1**

##### Major Topic 1 – General Introduction (1 Day)

- Introduction to Food Safety (global overview with reasons why it has become so important, who is driving the issue and who are the main players influencing its introduction and implementation).
- The various components of a Food Safety Program: Pre-requisite Programs (GMP, GHP/SSOP, training, recall procedures, pest control, approved supplier, personnel hygiene programs, waste management program, etc); HACCP; Risk Analysis.
- The role of Regulatory Authorities in overseeing National Food Safety Programs.
- The role of the Fishing Industry in implementing a Food Safety Program.

##### Major Topic 2 – Seafood Hazards (2 Days)

- Introduction to the potential hazards associated with the consumption of food.
- Hazards associated with seafood products (detailed treatment):  
Biological hazards (e.g. pathogenic bacteria, viruses and parasites)  
Chemical hazards (e.g. histamine, ciguatoxin, shellfish and toxins)  
Physical hazards (e.g. metal, glass and wood)

##### Major Topic 3 - Prerequisite Programs (1.5 Days)

- Introduction to Pre-requisite Programs for HACCP
- The Pre-requisite Activities of a Seafood Safety Programme
- Good Manufacturing Practice (GMP)

- Good Hygiene Practice (GHP) / Sanitation Standard Operating Procedures (SSOP)
- Pest Control Program
- Approved Supplier Program
- Staff Training Program
- Waste Management Program
- Product Recall Program
- Calibration

##### **Week 2**

##### Major Topic 4 – HACCP (3 Days)

- HACCP (Codex Alimentarius version and USA Seafood HACCP Regulations)
- Introduction to Risk Assessment
- Sampling for Analytical Purpose

##### Major Topic 5 – Legislation (1.5 Days)

- National and International Seafood Safety Programs/Regulations
- PNG Fish Quality Control Export Standards
- US Seafood HACCP Rule
- EU's "Own Checks" system
- Other countries: Australia, New Zealand, Japan.

### **Participants**

Donna Julieanne Asi, Arthur Baiwan, Aquina Kango, Emmanuel Kinawi, Alois Kinol, Timothy Ben Numilengi, Martina Ragagalo, Martin Siwa, Veronica Mogil Talis, Ronnie Tarat, Jon Timothy

### **Logistics and materials provided by the consultant**

All lecturing was done based on presentations to the group using "Power Point" and data projector. The curriculum stressed the importance of hygiene measures and prerequisite programs incorporating recommendations from the US FDA mandatory Seafood HACCP Regulations (21 CFR 123), Codex Alimentarius recommended International Code of Practice for general Principles of Food Hygiene. As well it referenced and incorporated recommendations from the US National Advisory Committee on Microbiological Criteria for Foods, the US FDA Fish and Fishery Products Controls and Hazard Guide (2nd Edition), as well various HACCP and

prerequisite programs developed by the NZ Seafood Industry. This course satisfies the requirements contained in the US Seafood HACCP regulation (21 CFR Part 123.10).

### Acknowledgements:

I wish like to thank Steve Roberts for the support during the development of the workshop, to personnel of the Fisheries Authority for the logistics and help. To the participants for

the enthusiasm and presence. And SPC for the funding and the opportunity to run the training.

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## *Assistance to the National Fisheries Authority, Papua New Guinea, by Ms Suwimon Keerativiriyaporn*

### Introduction

The Papua New Guinea National Fisheries Authority (NFA) urgently needed assistance to strengthen the capacity of the Audit and Certification Unit to be able to successfully audit fish exporting operations. This will help Papua New Guinea to meet the import requirements of the European Union for seafood products. I was therefore hired by SPC to:

- provide technical advice and training for NFA's audit and certification officers in appropriate audit and verification procedures for fish processing plants; and
- to assist with an audit of a large tuna cannery in Madang while providing advice on improving the HACCP (Hazard Analysis and Critical Control Point) implementation programme and documentation.

The terms of reference, and the activities undertaken in relation to each of them, were as follows.

- Help conduct training of the PNG NFA's regulatory inspectors in appropriate techniques of auditing seafood export operations that will conform to international food safety standards. The training was held at NFA from 23 to 28 October 2000. The programme comprised lectures and discussions, and audit exercises at the fish processing plant and fishing vessel. The course was designed to cover the areas of HACCP audit practices.
- Provide advice to NFA's regulatory inspection team on establishing a full and effective system of inspecting seafood export operations. This was achieved through reviewing the fish quality control export standards and audit checklists of the NFA. Comments were given to help improve the audit checklists and make them more practical and effective in inspection use. On Saturday of the first week, explanation was provided to the NFA's inspectors to prepare them for auditing the canning part of RD Tuna Cannery's operation in Madang. The advice

included proper procedures for conducting the audit, what to look at and look for and how audits were done in Thailand.

- Assist with a full audit of a tuna cannery that will demonstrate to NFA regulatory inspectors the practice of verification and auditing in a commercial seafood export operation. This started with preparing the documents used in the audit: guidelines, standards, and checklists. A full audit was then conducted at RD Tuna Cannery Pty, Ltd, one of the establishments exporting to EU markets. The practices of a proper audit were demonstrated. Advice on good manufacturing practices for tuna processing and low acid canned food regulation requirements were also given to the NFA's inspectors during the audit. The audit was completed in three and a half days.
- Provide advice to quality assurance tuna cannery staff in improving their processing operations to meet PNG and international food safety requirements. The areas where improvements to a food safety control system could be made were identified and discussed with the quality control manager of the cannery. Issues included good manufacturing practices for tuna processing and low acid canned food regulation requirements. At the exit meeting, the audit report which identified all the serious deficiencies found during the audit was given to the cannery's management. This report of the canning operation will lead to RD making improvements to its procedures.

I would like to express my appreciation to SPC for giving me this opportunity.

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# SPC FISHERIES TRAINING ACTIVITIES



## *Instructor from Vanuatu updates his skills in New Caledonia*

In November 1999, the Vanuatu Maritime College (VMC) and New Caledonia's Ecole des Métiers de la Mer (EMM) agreed to work together to improve the variety and quality of training available to seafarers and fishers in both countries.

From this agreement, VMC Engineering Instructor, August Fred, was attached to EMM in May and June this year to gain new experience and update his skills.

In May, August joined trainees from the Northern Province at Touho on a community fishing course, concentrating on basic seamanship (rope-work) and outboard engine maintenance and repair. The knots, splices and whippings he learnt at Touho came in handy in July when he went to Vanuatu's northernmost province of Torba to teach ropework.

August has considerable engineering experience, but recently has been concentrating on larger, diesel-powered engines. The training in maintenance and repair of outboards revived his interest in smaller motors. He was interested to find that like VMC, EMM is concentrating on Yamaha engines, and he particularly liked the EMM POP

sheet (Protection, Organisation, Prevention), which he used as an additional teaching resource in Torba.

August also took a course in personal survival and fire-fighting. He found the personal survival training almost

identical to VMC's own training. However, the fire-fighting was a totally new experience, as it used the fire-fighting simulator at Chaleix Naval Base. Wearing protective suits and helmets, trainees crawled into a smoke-filled room, holding on to each other so as not to get lost. They learnt how to approach a room with a fire inside – cautiously, cooling the door down first

– and then put out the fire by spraying foam inside. Outside the simulator they practised using high-pressure spray nozzles and foam-making branch pipes.

VMC is in the process of building its own fire-fighting simulator and, once completed, August will be able to teach others.

August's visit to EMM was funded by the SPC Fisheries Training Section. VMC is grateful to both SPC and EMM for their kind assistance.



*Outboard engine training at Touho*

## *Vanuatu Maritime College Instructors Gain up-to-date Teaching Qualifications*

From 19 to 30 June this year, the Vanuatu Maritime College was suddenly very quiet. Instead of training seamen, the instructors themselves were, in the classroom, attending a course run by NEXT Vanuatu Ltd, leading to a Certificate IV in Workplace Training and Assessment, a qualification recognised by the Australian National Training Authority.

The course had three objectives:

- To provide all instructors with a thorough knowledge of the preparation and delivery of competency-based training and assessment;



- To ensure that all instructional staff have an appropriate qualification, which is a requirement of STCW95; and
- To further team-building among College staff.

Coursework was based on the real-life role of the College - training seafarers and fishers.

First, the instructors identified the competencies needed by employees in various maritime areas, using the STCW Convention and Code as a basis and brainstorming from their own diverse knowledge and experience of the shipping industry. Then they concentrated on the development of training to suit the knowledge and skills required.

Competency-based training requires the trained person to demonstrate that he/she not only has the knowledge to perform a given task, but can actually do so. While an instructor must be able to tell others how to splice a rope, he must also physically demonstrate that he can splice a line himself.

Each of the College instructors was required not only to develop a training programme, but to deliver it in front of his fellow trainees, with another trainee playing the role of student. One of the engineering instructors devised a training unit on the knowledge and skills for pre-start checks of a diesel engine. Others focused on various aspects of seamanship such as knots and rigging. The performance of each instructor and each "student" was assessed by another member of the group.

The mix of participants was interesting. They ranged from the three most senior College staff to a newly recruited instructor. All took part on an equal footing and all – even the most experienced ones - found they could learn from the others. As they took turns to watch, listen and perform, some found this new way of looking at training and assessment a quite painful experience. Others welcomed it with open arms. All have benefited. Communication is better and instructors' increased confidence in their ability to deliver training is becoming apparent in their classroom performance.

The final assessment was made by Rhonda Stephen, Director of NEXT Vanuatu and Executive Chair of the Vanuatu Institute of Management, who conducted the course. All who attended were assessed competent and awarded certificates. The course ended with a magnificent meal at one of Santo's Chinese restaurants.

Taking part in the course were the Chief Executive Officer (Captain Ken Barnett), the Senior Engineering Instructor (Chris Gee), the two Nautical Instructors (Joe Dryburgh and Michael Edward), the Fishing Instructor (Nare Wolu), the Catering Instructor (Kelvin Talo) and the Boat Skipper (Soti William). Engineering Instructor August Fred missed out on this course as he was in New Caledonia undergoing training with the Ecole des Métiers de la Mer. He will attend a similar course later.

The Vanuatu Maritime College is grateful to SPC's Fisheries Training Section for the financial assistance provided for this valuable training exercise.

### ***First SPC seaweed training workshop in Vanuatu***

Between 16 May and 6 June 2000, seven fisheries officers from the Vanuatu Fisheries Department attended a training course on seaweed farming. The course was funded by the Government of Taiwan/ROC through its annual small-grant scheme to the region.

This particular training was organised by the SPC Fisheries Training Section. As mentioned in our previous article, the course was a train-the-trainer course designed for persons (mainly fisheries and extension officers) who will introduce and promote seaweed farming among coastal villagers. For Vanuatu, the seven participants consisted of three research officers and four fisheries extension officers. These officers will become trainers at the end of the workshop. The training was held in Port Vila on Efate Island.

Esaromea Ledua was contracted by SPC Fisheries Training Section to design and deliver the course programme.

The course covered areas such as seaweed farm maintenance and monitoring; proper post harvest handling and processing; packing and storage; marketing; establishing the procedures of selecting possible farming sites; and developing procedures of farm management. The training arrangement was discussed with the Director of Fisheries, Moses Amos and SPC Fisheries Training Specialist, Mr Teriihauroa Luciani.

Overall, this first SPC course on seaweed farming was a success. The seven participants gained knowledge of and skills on seaweed farming. Their challenge will be to assist in the development of seaweed farming in Vanuatu. Additional funding is available.



## ***Survival And Fire Fighting Course (8–17 June 2000), Ecole Des Metiers De La Mer – Noumea, New Caledonia***

### **Survival**

During practical we were taken out in the Harbour on the training ship. We practised pyrotechnics, putting on and swimming with life jackets, using immersion suits, and operating, boarding and riding an inflatable life raft.

### **Fire Fighting Techniques - Fire Simulator**

New techniques I learned from this course are

- a) Putting out a fire in a compartment
- b) Entering a compartment filled with smoke, wearing fireman's suits.
- c) Putting out a fire using high-pressure spray nozzles and jet-spray nozzles
- d) Putting out an oil fire using a foam-making branch pipe.

Using a compressed-air bottle and mask as breathing apparatus was also a new experience for me.

### **Comments**

I would like to thank SPC and Ecole des Metiers de la Mer for sponsoring my two trips to Noumea this year. Things learned during these courses will help me with my teaching career here at Vanuatu Maritime College.

I have just returned from Sola, Torba province after ten days there running courses on Outboard Motor Maintenance, Safety at Sea, Knots, Splices and Whippings. Participants for these courses were water taxi operators and fisherman.

August Fred, Engineering Instructor

## ***Fisheries Training on The Web***

August 02, 2000 is an important date for staff of the SPC Fisheries Training Section. After several weeks of fine-tuning, the Section's website is finally available on the Internet.

If you want to find out what we look like and, more importantly, what the Training Section does, [www.spc.int/coastfish/sections/training](http://www.spc.int/coastfish/sections/training) is the website to visit!

Although still in the development stage, the Section's website is a good source of information and resource materials. In addition to a short presentation of the Section and its staff, the site provides three links of potential interest to fisheries personnel in the Pacific. Under *Meeting Announcement*, you will find the latest course advertisements and corresponding nomination forms. For instance, the link contains documents in relation to the forthcoming regional course for women managers of seafood enterprises. The link to *Train-*

*ing Material* is probably the most interesting since it offers the possibility of downloading the Section's most recent resource materials. Have you lost the recently distributed SPC Vessel Economics software and need to assess the profitability of a longliner you are about to purchase? Do you want additional copies of the *On-Board Handling of Sashimi Grade Tuna* manual for new crew on your fishing vessel? Will you soon run a safety-at-sea workshop and are desperately looking for resource materials? Easy! Just click on *Training Material* and download what you need. Lastly, the section *News* will be regularly filled with training matters of interest to fisheries personnel, companies and training institutions. In there, you will find brief progress reports on the Section's activities as well as interesting news from other training providers in the region. Yes, our website is open to other institutions wishing to advertise their training activities but do not yet have the possibility to develop their own website!

## ***Sefti materiel blong Vanuatu mo Solomon***

In the early 1990s, the Training Section launched a safety-at-sea campaign aimed at reducing the number of small-boat distress incidents in the region, through the distribution of resource materials to fisheries administrations, training institutions, NGOs and private operators. Starting in 1995, Section staff have developed a campaign logo, four posters, two training videos, a safety equipment check-list (available as a sticker and as a laminated card), a teaching manual for trainers, an audio-tape programme for radio stations and eight video clips for TV stations. More recently, the English

version of a third video (Rambo Goes Deep Sea) was produced and a new a course (Basic Sea Safety certificate) was developed for maritime training institutions. Following a request from the Vanuatu Maritime College (VMC) and the maritime authority in Solomon Islands, the Section undertook the translation of some of the above materials in pidgin English.

The safety equipment and five-minute checklists were translated by Caroline Nalo (VMC Office Manager) and, after a

quick formatting job by SPC Graphic Artist, Jipé Le-Bars, hundreds of copies were printed as posters, stickers and laminated cards. The materials were shipped to Santo and Honiara, where local administrations will distribute them to the numerous and scattered islands in both countries. In Vanuatu, staff of the VMC will use and distribute the SPC materials during fisheries workshops (see article page 28), while in Solomon Islands, the Fisheries Division will take care of distribution using its extension network.

At a recent regional workshop, Solomon Islands Director of Marine, Michael Ahikau, gave the training section a boost of optimism when, commenting on SPC safety materials, he said: ". . . the number of accidents in the Solomons has dropped significantly following a series of workshops on safety-at-sea." Let's hope that with the pidgin materials, future workshops will have an even greater impact! The Fisheries Training Section is now awaiting a translation of its materials in PNG pidgin.



### ***Second Regional Course For Women Managers in New Zealand***

Long-time Fisheries Training Section's associate, the New Zealand School of Fisheries (NZSOF), is ready to host the second course on seafood enterprise operations and management for Pacific Island women. The course will be coordinated by Cushla Hogarth and Neil Wilson, both seafood technology experts at the NZSOF, and will run from Monday 13 November to Friday 01 December 2000.

Once again, Nelson-based industry representatives and staff of the NZSOF will combine their efforts to provide SPC trainees with a unique learning experience. As for the initial course in 1999, the training programme will include a mixture of tutorial sessions, group discussions, seafood plant visits and practical production trials. The main topics covered will be seafood quality and handling, hygiene, sanitation and safety, seafood processes and technologies, product development and improvement, marketing, staff management and business planning.

During the reporting period, Section staff have liaised with NZSOF tutors on programme content, selected course participants and organised travel arrangements.

The 10 participants are Josephine Mee from Latitude 8, Mele Mahe from Maritime Projects, Telatuni Saafi from Alatini Fisheries, Reena Narayan from Solander, Elena Veiqaliyaca from Ocean Trader, Elvine Lehartel, Agnes Sablan from Marianas Fishing Company, Nerrie Sumati from Delta Seafood, Sara Fillmed from Yap Fresh Tuna and Heatatisia Filo from Seastar Fishing.



*Participants during a seafood handling and filleting session, 1999.*

It is expected that the course will assist those selected women to upgrade their technical skills and help them develop strategies for enhancing the commercial viability of their enterprise. This regional course is funded through a grant from the New Zealand government. A report on this training will be available in the

next issue of our bulletin.

### ***IN BRIEF***

- A tuna-grading workshop may soon be run in Samoa. Following a request from the Fisheries Division, Section staff plan to visit Apia in December to train local tuna exporters on the grading of sashimi tunas. The workshop will combine classroom sessions to explain the sashimi concept and present the various grading parameters and practical grading sessions. The Nauru Fisheries and Marine Resources Authority has also approached the training Section for a similar workshop, tentatively scheduled for January 2001. The Nauru workshop will target tuna retailers and exporters as well as the main tuna fishers. Sessions on on-board tuna handling will be included to meet the needs of the latest.
- The SPC/AFA traineeship programme for Pacific Island fishers is underway in South Australia. On November 01, the six participants of this pilot project completed the shore-component of their training at the Australian Fisheries Academy's campus Port Lincoln. The trainees are now working on-board commercial Australian vessels until the end of December. Section staff will report extensively on this project in the next issue of the bulletin. In the meantime, we are seeking AusAID's financial assistance to repeat this training activity in 2001.
- A long awaited workshop on tataki production (see our previous issue) was run early in October at the Ocean Trader in Fiji. The Section contributed to the workshop by producing a training manual on skipjack filleting and bringing a tutor from the Sydney Fish Market. The presence of Ken Harada (Quality Control Officer at SFM) at the workshop was financed through AusAID's annual grant to the Section.
- Funding from NZODA will enable SPC and NZSOF to conduct a third regional course on seafood enterprise operations and management for Pacific Island women in 2001. This time, the course will target owners and managers of small artisanal seafood businesses. The programme advertisement will be released in due course.



# AROUND THE TRAINING AND EDUCATION CENTRES



## *Seafdec Aquaculture Department: An overview*

The Southeast Asian Fisheries Development Center or SEAFDEC is a regional treaty organisation established in 1967 in response to the global food crisis. SEAFDEC member countries are Japan, Malaysia, the Philippines, Singapore, Thailand, Brunei Darussalam, and the Socialist Republic of Vietnam. The Center has four Departments, each carrying out training and research programs within specified areas of activity.

- Aquaculture Department (AQD) in the Philippines for farming aquatic organisms;
- Training Department (TD) in Thailand for fishing technologies;
- Marine Fisheries Research Department (MFRD) in Singapore for post harvest technologies; and
- Marine Fishery Resources Development and Management Department (MFRDMD) in Malaysia for the wise use of oceanic resources.

The Philippines-based SEAFDEC Aquaculture Department (SEAFDEC/AQD) was established in 1973 to conduct research, develop technologies, disseminate information, and train people in the farming of fishes, crustaceans, mollusks, and seaweeds for food, livelihood, equity, and sustainable development. AQD operates the Tigbauan Main Station (TMS) in Tigbauan, Iloilo as the general headquarters; Igang Marine Station (IMS) in Nueva Valencia, Guimaras for broodstock development and management; Dumangas Brackishwater Station (DBS), Dumangas, Iloilo for brackishwater aquaculture; and Binangonan Freshwater Station at Tapao Point, Binangonan, Rizal for freshwater aquaculture. AQD has conducted numerous short-term training courses on various aspects of aquaculture attended by participants from all over the world with the majority coming from Southeast Asia.

### **Training courses**

AQD offers short-term aquaculture training courses composed of 10–20% lectures and 80–90% practical sessions including visits to different aquaculture sites. This hands-on approach is complemented by training facilities that include laboratories, computer room, fish/shrimp hatcheries, fish cages, brackish and freshwater farms, and a feed mill plant. All training courses are conducted in English.

### **Aquaculture Management (Aquamanagement) 3 weeks**

Effective management is the key to success of every aquaculture enterprise. This requires that the manager be thor-

oughly knowledgeable about all aspects of aquaculture operations, from planning to project evaluation. The three-week course aims to develop project managers' skills in aquaculture planning and implementation, monitoring, and evaluation. Specifically, the objectives of the course are to: 1) orient participants with various aspects of aquaculture (breeding and seed production, grow-out operations, feeding management, and disease prevention); 2) develop managerial skills in planning, implementation and evaluation of aquaculture projects; and 3) create awareness among the participants of the importance of social, political, environmental and ecological factors affecting aquaculture business enterprise and vice versa. The training course is designed for middle to top level government planners, executives, bankers, aquaculturists, extensionists, and decision makers. The course covers lectures on farm development, breeding and seed production, grow-out techniques feeding management, and disease prevention as part of the technical module. Some relevant topics concerning coastal aquaculture and resources management are covered. Some of these lectures have corresponding laboratory sessions. The management module covers topics on business management, resource management, enterprise management, and fishery laws and policies. Preparation and presentation of aquaculture feasibility studies are included.

Venue: Tigbauan Main Station

### **Fish Health Management (Fishhealth) Five weeks**

Fish disease can be microbial, viral, or environmental in origin. Disease occurrence in a fishfarmer's pond or hatchery can severely limit production and result in considerable loss of investment. This five-week course aims to provide theoretical and practical training for government fishery extensionists and aquaculture technicians in the etiology, isolation and identification, and prevention and control of fungal bacterial, viral and parasitic diseases, as well as nutritional and environmental diseases affecting aquaculture production systems. Participants should have a BS degree, preferably with a background in microbiology. The course covers topics on the occurrence and spread of disease in aquaculture operations; microbial disease agents; non-infectious diseases; and disease prevention and control. At the end of the course, participants should be able to recognize diseased shrimps and fish, identify the cause of the disease, apply preventive and control measures to lessen risks of disease, and use appropriate techniques for the

preparation of samples for disease diagnosis. Practical work includes fish anatomy and examination of fish specimens; investigation of fish/shrimp mortality cases; preparation of culture media and solutions; microbial analysis; bacterial isolation and identification techniques; bacterial count, demonstration of viral effects, fungal isolation and identification; parasite detection and identification; histological techniques; bioassay; demonstration of anti-microbial sensitivity test; and health monitoring of shrimp larvae.

Venue: Tigbauan Main Station

### **Management of Sustainable Aquafarming Systems (Sustainableaqua) Five weeks**

Aquaculture production has been suffering from adverse effects of indiscriminate application of technological advances. Farming systems that have been tested, verified and proven environmentally-friendly, sustainable, and equitable to society must be promoted and practiced by the aquaculturists. This five week course aims to provide participants with technical knowledge and skills for the actual operation and management of grow-out facilities for fish, crustaceans, molluscs, and seaweeds. At the end of the course, participants should be able to: 1) select the proper site and suitable species for grow-out culture; 2) apply appropriate engineering and biological principles in designing grow-out facilities; 3) apply suitable farming methods and proper management techniques; 4) apply appropriate harvesting device and post harvest techniques; and 5) analyse the economics of grow-out farming operations. The training course is designed for fishery extension workers, fishery school teachers, aquaculture technicians, and aquaculturists. Lectures on various aquafarming systems are reinforced by actual field and laboratory work such as pond design and construction, cage construction and installation, seeding collection and seaweed planting, pond preparation, stocking, feeding and water management, soil and water analysis, feedmill operation, and post-harvest techniques. Feasibility study preparation is also included.

Venue: Tigbauan Main Station and Dumangas Brackish-water Station

### **Marine Fish Hatchery (Marfish) Six weeks**

With the continuing development of techniques for spawning and larval rearing of marine fishes, there will be less dependence on wild seed stock for grow-out culture. Fish hatcheries play a big role both in stimulating farming activity of various aquatic species as well as in conservation and reseeded efforts to replenish wild stocks. This six-week course aims to provide participants with technical knowledge and skills in operating marine fish hatcheries. At the end of the course, participants should be able to apply broodstock management and spawning techniques; pro-

duce natural food organisms; produce fry; and apply appropriate engineering and biological principles in designing marine fish hatchery systems. The course covers seed production of marine fishes such as milkfish, *Chanos chanos*; grouper *Epinephelus coioides*; and seabass, *Lates calcarifer*, from broodstock development to spawning; hypophysation and other spawning techniques; larval rearing techniques; and transport of fry/fingerlings from hatchery to nursery. Laboratory work involves microscopic examination of larval food to determine type, quality, and size; determination of mouth size of larval stages; observation of embryonic stage development; hormone preparation for injection; and *Artemia* decapsulation and enrichment. Practical work covers hormone injection/implantation; spawning and actual larval rearing activities up to metamorphosis; collection of seed from spontaneous spawning in cages; and mass production of larval food.

Venue: Tigbauan Main Station and Igang Marine Station

### **Shrimp Hatchery (Shrimphatch) Five weeks**

Supply of shrimp seed from nature has been inadequate to meet the heavy demand of seed stock for the shrimp farming industry. Today, fish farmers do not have to rely exclusively on wild fry. Hatcheries are capable of producing shrimp year-round. Hatchery-reared fry have a number of advantages over fry obtained from the wild: they're of uniform size, the stock is not mixed with predators, and quantity can be obtained at one time. This course aims to develop skills in operating a small-scale shrimp hatchery including broodstock and nursery, with emphasis on *Penaeus monodon*. At the end of the course, participants should be able to select the proper hatchery site; apply appropriate engineering and biological principles to design hatchery systems, mass-produce natural food, effectively utilize various artificial feeds for the larvae; apply spawning, larval and post-larval rearing techniques; and monitor and detect early signs of disease and implement preventive and control measures. Course topics include site and species selection; design and construction of hatchery and nursery tanks; larval and post-larval rearing and feeding; harvesting, packing, and transport of fry; and hatchery economics. Participants will conduct broodstock sampling, eyestalk ablation, monitoring of embryonic stages, natural food production, larval rearing, feeding and water management, and harvest and packing.

Venue: Tigbauan Main Station

### **Fish Nutrition (Nutrition) Five weeks**

Aquaculture production depends, on the quality and availability of food in the culture system. In addition to natural food organisms such as phytoplankton and zooplankton, formulated diets are given to meet the requirements of culture species. This five-week course aims to provide the

needs of aquaculture technicians and fish nutritionists for basic theoretical information and technical skills on aquaculture nutrition. Participants should have a BS degree, preferably with a chemistry background. At the end of the course, participants should be able to: apply basic principles in nutrition and feeding in aquaculture; formulate, prepare and evaluate diets suitable for aquaculture; apply proper techniques in feed preparation and storage; and apply proper feeding management.

Venue: Tigbauan Main Station

### **Freshwater Aquaculture (Aquafresh) Four weeks**

The rapid degradation of freshwater resources requires discriminate use of existing culture systems and technologies and development of sustainable ones. Freshwater fisheries at present are overexploited resulting in pollution, fishkills, underproduction, and poor genetic strains of fish. The renewed interest in the commercial culture of freshwater fishes (i.e. tilapia, carp, and catfish) positively contributes to food security. This four-week course aims to provide participants with technical knowledge and skills on the artificial propagation and culture of selected freshwater species. At the end of the course, participants should be able to apply broodstock management and spawning techniques; produce fry; produce natural food organisms and artificial feed; and monitor and detect early signs of disease and implement preventive and control measures.

Venue: Binangonan Freshwater Station

### **Sustainable Aquaculture and Coastal Resource Management (Coastal Management) Five Weeks**

Coastal areas are economically important throughout the world, especially in Asia and the Pacific. They support a wide diversity of marine life, significant portions of agriculture, industry, and tourism. The various pressures placed on coastal resources create a need for a more rational, equitable, and sustainable methods to husband the vast coastal waters of Asia and the Pacific. There is a need to disseminate the concepts, principles and practices pertaining to coastal aquaculture and resource management to reconcile the technology and sustainability of development. This five-week course aims to provide participants with technical knowledge and techniques on coastal aquaculture and resource management. At the end of the course, participants should be able to learn the basic concepts and principles of sustainable aquaculture in the field of breeding and seed production, nursery, fish health, feed development, farming systems and water quality management; understand the important socioeconomic, institutional and environmental issues affecting sustainable aquaculture development and resource management. Practical activities include resource and ecological assessment, participatory rural appraisal,

formulation of project proposals on coastal resource management, collection and preparation of planting materials, production of natural food, cage construction and maintenance, and post-harvest handling and processing.

Venue: Tigbauan Main Station

### **Other Training Programs Specialised Training Courses**

Upon request and arrangement in terms of schedule, coverage, and cost, the following specialised training courses could be offered for individuals or groups:

- Culture of Natural Food Organisms (NATURALFOOD)
- Seaweed Culture (SEAWEED)
- Milkfish Farming (MILKFISH)
- Mudcrab Hatchery (MUDCRABHATCH)
- Grouper and Other Marine Fish Cage Culture (MARFISHCAGE)
- Mangrove-friendly Aquaculture (MANGROVE-FRIENDLY)
- Shrimp Farming (SHRIMPFARM)
- Catfish Culture (CATFISH)
- Tilapia Culture (TILAPIA)
- Oyster and Mussel Farming (MOLLUSC)
- Sustainable Aquaculture and Coastal Resource Management (SACRM)

### **Internship/Practicum Training**

Internships may be arranged for individuals and small groups in areas of nutrition and feed formulation, chemical and proximate analysis, plankton culture, instrumentation, and other laboratory work. AQD also accepts a number of undergraduate fisheries students for practical work (maximum of 400hrs) as a requirement for graduation. Applicants will be screened on the basis of application forms and endorsement by the college dean. Acceptance will also depend on the availability of a research laboratory in any of the Department's stations to accommodate the practicum trainee(s).

### **On-site training**

On-site training modules or seminars may be requested by local fish farmers associations/cooperatives, fisheries schools, local government offices, non-government organisations and other interested parties depending on the availability of resource persons.

### **Qualification of Participants for Regular Short-term training Course**

Enrollment is limited to 16-22 trainees per course. A prospective participant should have:

- College degree, preferably in fisheries, biology and related fields, or a Certificate/Diploma in Fisheries, or a high school degree plus three years of experience in aquaculture;
- Age between 21-45 years
- Proficiency in English, and
- Good health (pregnant women are discouraged due to heavy practical work)

### Admission

Inquiries and request for application forms maybe sent to:

The Head  
Training and Information Division  
SEAFDEC Aquaculture Department  
Tigbauan, 5021 Iloilo  
Philippines  
Telefax:(033)3362891  
E-mail: training@aqd.seafdec.org.ph

A completed application form accompanied by a medical certificate of good health should be sent to AQD at least one month before the start of a given course. After screening, the applicant is notified by letter, telex, fax or e-mail of admission to the course. Admission is non-transferable. If an applicant does not confirm two weeks before the training starts, admission is given to the next applicant on the wait-list. A course session may be cancelled due to insufficient qualified applicants.

### Training Fees

The basic training fee covers lodging, cot of registration, training materials, field trips, honoraria for resource persons, accident insurance, and medical consultation. Other fees include a refundable breakage fee of US\$12 (for training courses with laboratory practicum) and US\$50 for a one-day cultural tour in Manila (optional). Fees must be paid before the start of the training course. Payment should be made in the form of demand draft, manager's check, or telegraphic transfer payable to SEAFDEC Aquaculture De-

partment, or in cash. A number of fellowship grants are available to applicants from SEAFDEC Member Countries nominated by their governments through their respective SEAFDEC Council Director.

### General Information

Passport/Visa. A valid passport and visa are required of foreign nationals for entry to the Philippines. Participants must secure a 9(E-2) FGO or 47(A) 2 visa before commencement of travel to avoid difficulty with Philippine immigration; visa processing takes more than one month. Visas must be valid for the duration of the training course. Participants are responsible for an extension.

### Transportation and communications

Iloilo is located in Panay Island, a one hour by air from Manila and 30 minutes from Cebu City. There are many daily flights by Philippines Airlines, Cebu Pacific Airlines and Air Philippines from Manila to Iloilo and two daily flights from Cebu to Iloilo. Tigbauan Main Station is located 25km southeast of Iloilo City. Telex, fax, e-mail and long distance telephone facilities are available in Manila and Iloilo.

### Arrival in Manila and Iloilo

Participants coming from other countries should arrive in Manila one to two days before the start of the training course to allow travel time to Iloilo. Taxis are readily available from NAIA at US\$6-7 to the domestic airport and US\$5-6 (by pre-arranged rate) from the Iloilo Airport to Tigbauan Main Station.

Participants with connecting flights to Iloilo on the same day are advised to take the Philippine Airlines' (PAL) Transfer Service in going to the domestic airport. Participants whose flights to Iloilo will be on the following day are advised to look for the SEAFDEC representative at the Arrival Section Area. The representative will book the participants in a hotel and take them to the Domestic Airport for their scheduled flight to Iloilo City the next day.

## *News from The Tonga Maritime Polytechnical Institute*

- One Marine Engineering instructor successfully attended a Engineer Watchkeeper course at Manukau Maritime Studies in August 1999.
- One deck instructor successfully attended a STCW 95 Upgrading Course in AMC, Launceston, Tasmania in April 2000.

- Two nautical instructors and one Marine Engineer Instructor will be attending a Tutorial Workshop in AMC, Launceston, Tasmania from 4-23 December 2000.





No	Course Names	Course Dates	Duration	Max No of participants
1	Class II Watchkeeper Rating (Pre-sea)	22 <sup>nd</sup> Jan - 8 <sup>th</sup> Jun	20 weeks	Deck : 15 Engine : 15 Catering : 4
2	Advance LPG	22 <sup>nd</sup> Jan - 9 <sup>th</sup> Feb	3 weeks	Trainees : 20
3	Master Class V Engineer Class V (Core Course)	18 <sup>th</sup> June - 24 <sup>th</sup> Aug	10 weeks	Deck : 15 Engine : 15
4	Special Catering Course	2 <sup>nd</sup> July 17 <sup>th</sup> Aug	7 weeks	Catering
5	Class I Watchkeeper Rating (AB)	3 <sup>rd</sup> Sept - 9 <sup>th</sup> Nov	10 weeks	Deck : 15 Engine : 15 Catering : 4
6	LPG Familiarisation Course (Basic)	19 <sup>th</sup> Nov - 30 <sup>th</sup> Nov	2 weeks	Trainees : 20
7	Outboard Motor Maintenance	19 <sup>th</sup> Nov - 7 <sup>th</sup> Dec	3 weeks	Trainees : 20

### *Seafood Industry Training at AMC*

The Australian Maritime College (AMC) is Australia's national centre for maritime training, education and research. AMC offers a range of services tailored to the needs of the seafood industry including programs in:

- Seafood safety
- HACCP programs & accreditation
- HACCP familiarisation
- Seafood post-harvest technology
- Seafood product development and value adding

We provide flexible, innovative training that will give you a qualification by providing distance education resources and recognition of skills learnt on the job. Work-based nationally recognised certificate courses are offered in:

- Aquaculture
- Seafood Processing
- Seafood Sales and Distribution

- Fishing & Vessel Operations
- Fisheries Compliance
- Marine Tourism

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Australian Maritime College  
Faculty of Fisheries & Marine Environment  
PO Box 21  
Beaconsfield TAS 7270  
www.amc.edu.au

### *News from the Kiribati Fisheries Training Center*

The Fisheries Training Centre in Tarawa is still conducting two courses annually for the last time. That means, starting from next year there is a plan to conduct three courses a year with a period of training of 9 months each course as usual. At the moment there are two courses running (the 20th and the 21st course). There are 36 boys joining the 20th course while 18 boys join the 21st course. The same curriculum is repeated for each course throughout the year with the hope of trying to move gradually towards the IMO STCW. F. 95 convention even though it has not been ratified by at least 15 country members of the the IMO. Basically parts of the training program here would allow the trainee to join any foreign or local fishing fleet as the case may be after graduating . The boys are taught these subjects:

- Fishing Technics, Seafaring Practice, Fire Fighting, Proficiency in survival crafts, Engine knowledge and the Japanese language since the Japanese Fishing fleet is our main employer at the moment.

The boys selected to join the training here at the FTC come from the Kiribati islands only as recommended by the Government's quota system.

For more information, please contact :

Capt. Teorae Kabure, Principal, Fisheries Training Centre  
P.O. Box 295, Bikenibeu, Tarawa, Kiribati, Phone : +686 28508, Fax : +686 28506



## USP NEWS



### *Post Harvest Fisheries Development Project*

The Marine Studies Program of the University of the South Pacific (USP) is implementing a Post Harvest Fisheries Development Project (PHFDP) funded by the Canada-South Pacific Ocean Development Program Phase 11 (C-SPOD-P11). The project covers USP countries plus the Federated States of Micronesia (FSM) and Palau.

#### **Primary school readers**

In collaboration with SPC, International Ocean Institute (IOI), and USP Institute of Education, three primary school

readers have been produced aimed at increasing awareness of post harvest fisheries issues. These books were launched in collaboration with the South Pacific Regional Environmental Program (SPREP) at the Sub-Regional Primary Teacher Training Workshop on Environmental 27–31 March 2000, Nadi, Fiji Islands. A snakes & ladders game will be packaged with the three books for distribution. Workshops have also been conducted in Kiribati, Samoa and the Cook Islands to raise awareness on seafood issues in the region and to officially hand over primary school readers to the Ministries of Education.



*Students receive Primary School readers in Kiribati.*

#### **Secondary school module**

A seafood module for secondary schools will soon be printed. Printed modules and CDs will be distributed to curriculum offices throughout the region and training provided to curriculum officers, teacher trainers and teachers where possible. It is anticipated that the material in the modules will be incorporated into schools by national curricula review processes.

#### **Community fisheries training**

The fisheries module for the SPC Community Education Training Centre (CETC) was run successfully at the Marine Studies Centre and CETC in 1999 and 2000 in collaboration with SPC's Community Fisheries Section. The module is being developed into a series of community training booklets for CETC as well as Fisheries Extension NGOs, health promotion units and other relevant stakeholders. The SPC Community Fisheries Section, CETC and IOI are co-funding the production of the booklets.



*CETC trainees practice tying knots.*



*CETC trainees prepare marlin and tuna for smoking.*



*SPC's Community Fisheries Officer explains about bacterial growth.*

Training has also been conducted through the Wan Smol Bag theatrical group with Turtle Monitors (Turtle Monitors are trained and sponsored to help with development projects within their villages) in Vanuatu and with Women In Fisheries in Fiji.

### **Cold chain training**

A cold chain training workshop took place in Nauru to upgrade staff at the new Nauru Fish Market. The PHFDP's Cold Chain Trainer, Mr Gabriel Titili from Isabel Province in the Solomon Islands, conducted the training in collaboration with the Nauru Department of Fisheries and Marine Resources. Mr Titili also conducted this year's one-week fish handling

module in collaboration with the Fiji Institute of Technology's Maritime School at the USP Marine Studies Center.

### **Seafood processing workshop**

A seafood processing workshop was conducted in Tarawa at the 6<sup>th</sup> Sub-regional Workshop on Food Processing coordinated through the Forum Secretariat's Trade and Investment Division with the Kiribati Ministry of Commerce, Industry and Tourism. Forty-eight participants attended this workshop from Palau, Nauru, the FSM and Kiribati. Within Kiribati representatives came from Tarawa, Christmas Island and the Northern Island groups (Tabiteuea, Tamana, Aranuka, and Abemama).





*Making a recipe using sea vegetable (Eucheuma).*



*Laying out tuna jerky for solar drying*

## TV

In collaboration with the USP Journalism Program, SPC Media Unit, and UNESCO two TV video clips were produced for the Pacific Way programme. The first clip looks at ways to improve the use of ice in the Solomon Islands. The second clip looks at ciguatera poisoning in Kiribati. Both of these issues came from the PHFDP's needs assessment. Primary school readers designed to promote better handling of seafood and understanding of seafood quality are being broadcast on Fiji One's Children First programme.

## Radio

USP students and trainees from CETC produced audio scripts for radio based on information from the project's needs assessment. USP and SPC Media Unit (Audio) have

produced master tapes which are being dubbed and distributed to Fisheries Extension, NGOs, and other appropriate stakeholders. For more information please do not hesitate to contact us:

### Project Leader:

Mr Tony Chamberlain,

**Tel:** + 679 212876,

**Fax:** + 679 301490,

**E-mail:** chamberlain@usp.ac.fj

### Project Coordinator:

Mr Samasoni Sauni,

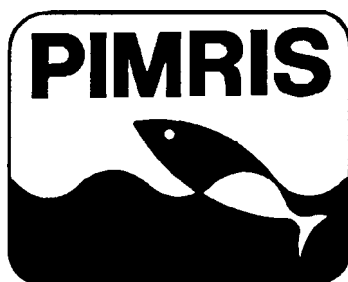
**Tel:** + 679 212879,

**Fax:** + 679 301490,

**E-mail:** Sauni\_S@usp.ac.fj



PIMRIS is a joint project of 4 international organisations concerned with fisheries and marine resource development in the Pacific Islands region. The project is executed by the Secretariat of the Pacific Community (SPC), the South Pacific Forum Fisheries Agency (FFA), the University of the South Pacific's Pacific Information Centre (USP-PIC), and the South Pacific Applied Geoscience Commission (SOPAC). This bulletin is produced by SPC as part of its commitment to PIMRIS. The aim of PIMRIS is to improve the



Pacific Islands Marine Resources Information System

availability of information on marine resources to users in the region, so as to support their rational development and management. PIMRIS activities include: the active collection, cataloguing and archiving of technical documents, especially ephemera ('grey literature'); evaluation, repackaging and dissemination of information; provision of literature searches, question-and-answer services and bibliographic support; and assistance with the development of in-country reference collections and databases on marine resources.